

WE CLAIM:

1. In a communication network provided with a NMS maintaining a network topology map, and managing one or more EMS's, each EMS maintaining a respective EMS topology map, a method of synchronizing said NMS map with an EMS map, comprising:
 - receiving at said NMS a user request for a hierarchy altering operation, said user request comprising topology change data;
 - verifying validity of said user request, and, whenever said user request is valid:
 - altering said NMS network map according to said topology change data in said user request;
 - automatically sending, from said NMS to said EMS, a change request comprising said topology change data; and
 - updating said EMS map according to said change request.
2. The method of claim 1, further comprising, sending an acknowledgement from said EMS to said NMS to inform said NMS than said EMS map has been updated.
3. The method of claim 1, wherein said topology change data refers to adding, upgrading, moving removing, and/or renaming a network entity.
4. The method of claim 3, wherein said network entity is a node group, a network node, and/or a network element.
5. The method of claim 1, further comprising providing an error message whenever said user request is invalid.

6. The method of claim 1, wherein said step of verifying validity of said request comprises checking the syntax and the completeness of said user request.

7. The method of claim 1, wherein said step of verifying comprises checking a location identification data in said user request.

8. The method of claim 7, wherein said location identification data provides the hierarchical location of a network entity to which said topology change data pertains.

9. The method of claim 5, wherein said error message specifies that said user request includes invalid characters.

10. The method of claim 5, wherein said error message specifies that said user request includes incorrect location identification data.

11. The method of claim 10, wherein said incorrect location identification data comprises an incorrect network entity name, an incorrect specification of network entities hierarchy and/or a missing name for a network entity.

12. The method of claim 1, further comprising, identifying at said NMS which EMS is affected by said user request, for selectively sending said change request to said affected EMS managing one or more affected network elements.

13. The method of claim 1, further comprising cyclically checking the state of said EMS, storing said change request whenever said EMS is temporarily in an 'off state', and providing said change request to said EMS when said EMS is back in an 'on state'.

14. In a communication network provided with a NMS maintaining a network topology map and one or more EMS's, each maintaining a respective EMS topology map, a method of synchronizing said NMS map with an EMS map, comprising:

- receiving at said EMS a user request for a hierarchy altering operation, said user request comprising topology change data pertinent to a network entity;

- automatically sending, from said EMS to said NMS, a change request comprising topology change data;

- at said NMS, verifying validity of said user request; and

- altering said NMS network map according to said topology change data in said user request whenever said user request is valid.

15. The method of claim 14, wherein said EMS disables any subsequent user requests involving said topology change data from said EMS, for enabling user request pertinent to said network entity from one localized place.

16. A NMS for a communication network, comprising:

- a network topology map comprising all network entities in said communication network and hierarchical information on location of said network entities;

- a user interface for enabling said NMS to receive a user request comprising topology change data pertaining to a specified network entity;

- means for verifying validity of said user request;

- means for changing said NMS map according to said topology change data whenever said user request is valid; and

- means for generating from said user request a change request comprising said topology change data and automatically sending said change request to an EMS affected by said user request.

17. The NMS of claim 16, wherein said hierarchical information on location of said network entities provides a location of a network element in the entire network, in a node group and/or in a network node.

18. The NMS of claim 16, wherein said NMS map is stored in a NMS database.

19. The NMS of claim 16, further comprising means for identifying said EMS affected by said user request.

20. The NMS of claim 16, wherein said means for verifying validity of said user request comprises a set of EMS specific rules and limitations.

21. The NMS of claim 16, wherein said means for verifying comprises a list of syntax errors, invalid characters, and empty node group names.

22. In a communication network provided with a NMS maintaining a network topology map with all network entities in said communication network and with hierarchical information on location of said network entities, an EMS monitored and controlled by said NMS, comprising:

an EMS topology map including a subset of network entities and hierarchical information on location of said network entities in said subset;
means for receiving from said NMS a change request comprising topology change data; and
means for changing said EMS map according to said topology change data.

23. The EMS of claim 22, further comprising a user interface for enabling said EMS to receive a user request comprising said topology change data pertaining to a specified network entity in said subset of network entities.

24. The EMS of claim 23, further comprising means for automatically sending said user request to NMS.

25. The EMS of claim 23, further comprising means for disabling any subsequent user requests involving said topology change data from said EMS, for enabling user request pertinent to said network entity from one localized place.

26. The EMS of claim 22, further comprising means for cyclically checking the state of said EMS, storing said change request whenever said EMS is temporarily in an 'off state', and providing said change request to said EMS when said EMS is back in an 'on state'.

27. In a communication network provided with a NMS maintaining a network topology map and managing a plurality of EMS's, each maintaining a respective EMS topology map, a method of resynchronizing said EMS topology maps with said network topology map, comprising:

- receiving at said NMS a user request for a resynchronization of said network topology map with said EMS topology maps;

- identifying all EMS's affected by said request;

- automatically sending, from said NMS to each of said EMS's affected by said request, updating topology data relevant to said affected EMS; and

- updating each said EMS topology maps of each said affected EMS according to said updating topology data.